

## ABSTRACT OF THE DISCLOSURE

The present invention relates to a method and apparatus providing tissue harmonic imaging using an ultrasound machine. Coded pulses and the phase inverted version of the said coded pulses with time bandwidth greater than 1 are transmitted into the tissue. Backscattered echoes are received and filtered before or after coherent summation. Decoding/compressing of the received echoes of the coded pulses is implemented naturally through the propagation of the specially designed ultrawide band (>80%) waveforms inside tissue and pulse inversion. Costly decoding/compression filter are not necessary.